

REMARKS

In the Office Action, the Examiner rejected claims 1-7, 17-22, 27-31, and 34-36. Further, the Examiner objected to claims 8-16, 23-26, 32, and 33 for depending from a rejected base claim, but indicated that these claims each contain allowable subject matter. Applicant thanks the Examiner for the recognition of allowable subject matter in the present claims. However, for the reasons set forth below, Applicant respectfully submits that all of pending claims 1-36 are allowable in their present form. Applicant respectfully requests reconsideration of the above-referenced application in view of the following remarks.

Objection to the Specification

In the Office Action, the Examiner objected to the specification for its exclusion of a brief summary of the invention, citing 37 C.F.R. § 1.77 as the basis for the objection. Applicant respectfully notes that 37 C.F.R. § 1.77 merely sets forth a suggested order for sections of the specification, and that 37 C.F.R. § 1.73 more particularly discusses summaries of the invention. However, as would be appreciated by one versed in statutory and regulatory interpretation, there is a significant difference between the term “should,” and the terms “must” or “shall.” For instance, 37 C.F.R. § 1.74 states that “[w]hen there are drawings, there *shall* be a brief description of the several views of the drawing” (emphasis added). Similarly, 37 C.F.R. § 1.75(a) states that “[t]he specification *must* conclude with a claim” (emphasis added). Likewise, 37 C.F.R. § 1.72(b) states that “[a] brief abstract of the technical disclosure in the specification *must* commence on a separate sheet” (emphasis added). As used throughout the Code of Federal Regulations, including Title 37, the terms “must” and “shall” denote mandatory requirements.

Conversely, the term “should,” as used in federal regulations, refers to recommended or advisory procedures, not mandatory requirements. Applicant notes that 37 C.F.R. § 1.73 clearly recites a “brief summary of the invention ... *should* precede the detailed description” (emphasis added). The regulation also recites that “[s]uch summary

should, *when set forth*, be commensurate with the invention as claimed” (emphasis added). The term “should” is permissive in nature, and the use of the phrase “when set forth,” clearly indicates that inclusion of a summary of the invention, while recommended, is *optional*. Applicant further notes that the rule does not, in any way, suggest that such a summary is required for patentability. As such, Applicant respectfully submits that a section devoted to a summary of the invention is not a requirement. *See also* Manual of Patent Examining Procedure § 608.01(a), Form Paragraph 6.01 (indicating that the arrangement cited by the Examiner is are guidelines of a preferred arrangement and are merely suggested). Consequently, the present objection is untenable. For these reasons, Applicant respectfully requests withdrawal of the objection.

Rejections Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1-7, 17-22, 27-31, and 34-36 under 35 U.S.C. § 102(e) as anticipated by Unsworth et al. (U.S. Patent No. 6,636,823). Applicant respectfully traverses this rejection.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Moreover, the prior art reference also must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Accordingly, Applicant needs only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

Omitted Features of Independent Claim 1

Turning now to the present claims, the Unsworth et al. reference fails to disclose each element of independent claim 1. For instance, independent claim 1 recites “the processor is operable to establish motor *output* power” (emphasis added). Because the Unsworth et al. reference fails to disclose such an element, the cited reference fails to anticipate independent claim 1.

The Unsworth et al. reference is generally directed to detection of a fault in electrical motors. Col. 1, lines 7-13. Particularly, the cited reference teaches the use of a power decomposition technique to derive positive and negative sequence components of motor voltage and current to determine the existence of a motor stator winding fault. *Id.* Notably, the method taught by Unsworth et al. includes sampling three-phase instantaneous input current, in step 34, and three-phase instantaneous input voltages to the motor, in step 36, and converting them into two-phase quantities in step 38. Col. 4, lines 23-56. The instantaneous real power and imaginary power are then generally calculated in step 40 by multiplying the two-phase current by the two-phase voltage. Col. 4, lines 57-65. These powers are then divided into positive and negative power sequences, from which positive and negative current sequences may be derived. Col. 5, lines 21-52. In general terms, a fault is detected by comparing the negative current sequence with that expected from a healthy motor. *See* Col. 6, lines 13-43.

In the Office Action, the Examiner relied on step 40 of the Unsworth et al. reference as establishing motor output power. Office Action mailed April 20, 2005, page 4. However, step 40 merely discloses the multiplication of input current and input voltage to calculate the *input* power to the motor, including both the real and imaginary components of this input power. The reference clearly indicates that the currents measured in step 32 and used in step 40 are input currents. Col. 4, lines 33-43. Further, one skilled in the art will appreciate that three-phase power supply 13 inputs to the motor the three-phase line voltages measured in step 34 and used in step 40. *See* col. 3, lines

60-64; col. 4, lines 23-53. One skilled in the art will also appreciate that the product of input current and input voltage is *input power*. Upon analysis, it is clear that step 40 of the cited reference, which teaches multiplying the input current and the input voltage, results in a determination of the motor *input* power and does not in any way suggest determination of the motor *output* power. As such, the Unsworth et al. reference cannot be reasonably considered as disclosing a processor “operable to establish motor output power.” Consequently, the Unsworth et al. reference cannot support a *prima facie* case of anticipation with respect to independent claim 1 or its dependent claims.

Omitted Features of Independent Claims 17, 27, 30, and 34

The Unsworth et al. reference also fails to disclose each element of independent claims 17, 27, 30, and 34. For instance, independent claim 17 recites “establishing the efficiency of the multiphase motor based on the balanced set of phasors with a positive sequence and the balanced set of phasors with a negative sequence.” Further, independent claim 27 recites “means for establishing motor electrical parameters based on the positive sequence.” Claims 30 and 34 are generally directed to computer programs for carrying out the functionality recited by claims 17 and 27, respectively. Because the Unsworth et al. reference fails to disclose such elements, the cited reference fails to anticipate independent claims 17, 27, 30, and 34.

In the Office Action, the Examiner argued that the recited elements of these claims were inherently disclosed in the Unsworth et al. reference, relying heavily on the Examiner’s argument as discussed above with respect to independent claim 1. *See* Office Action mailed April 20, 2005, pages 5-6. Particularly, the Examiner notes that efficiency is naturally established after the output power is calculated and compared with input power. *Id.* However, as noted above, the Unsworth et al. reference does not disclose calculating the output power of a motor. Thus, even though efficiency can be determined by comparing output power to input power, Unsworth et al. cannot be reasonably considered to disclose, inherently or otherwise, calculation of motor efficiency. Further,

Applicant respectfully submits that the Unsworth reference does not disclose establishing motor electrical parameters based on a positive sequence. Because of these deficiencies, the Unsworth et al. reference cannot support a *prima facie* case of anticipation with respect to the instant claims.

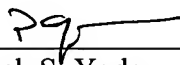
For these reasons, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 102 and allowance of claims 1-7, 17-22, 27-31, and 34-36.

Conclusion

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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